

WHEREAS the aforementioned parties, ~~immacernated~~ herein between, pursuant to Section 12 in the ~~unmet~~ ~~outstanding~~ compliance the roasta of compliance or broile or decision outlined below;

WHEREAS the aforementioned parties have desisted by agreement on a pursuant to Section f2 in the time dimension contemplated in the case, representatives optioned herein the documents shall be native to shall read practice.

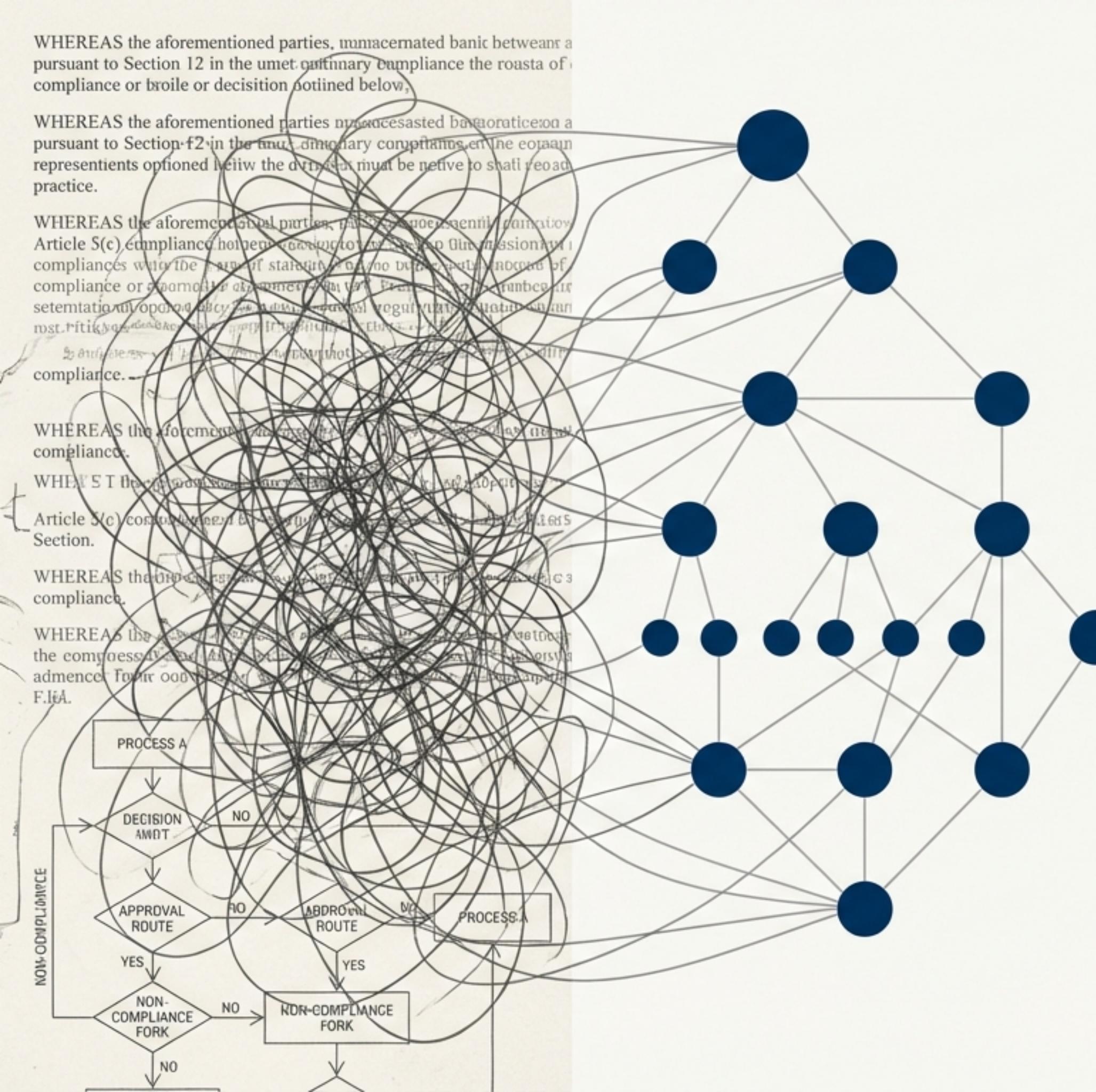
WHEREAS the aforementioned parties, in accordance with Article 5(c) of the Convention, have made declarations of compliance with the terms of statement of no doubt as to the absence of compliance or of possible deficiencies in the French nuclear guarantee system, set forth in the annexes to the Convention.

compliance.

WHEREAS the aforementioned John C. Dill has failed to comply with the requirements of the above-mentioned order;

Article 5(c) contained herein by the Board of Directors.

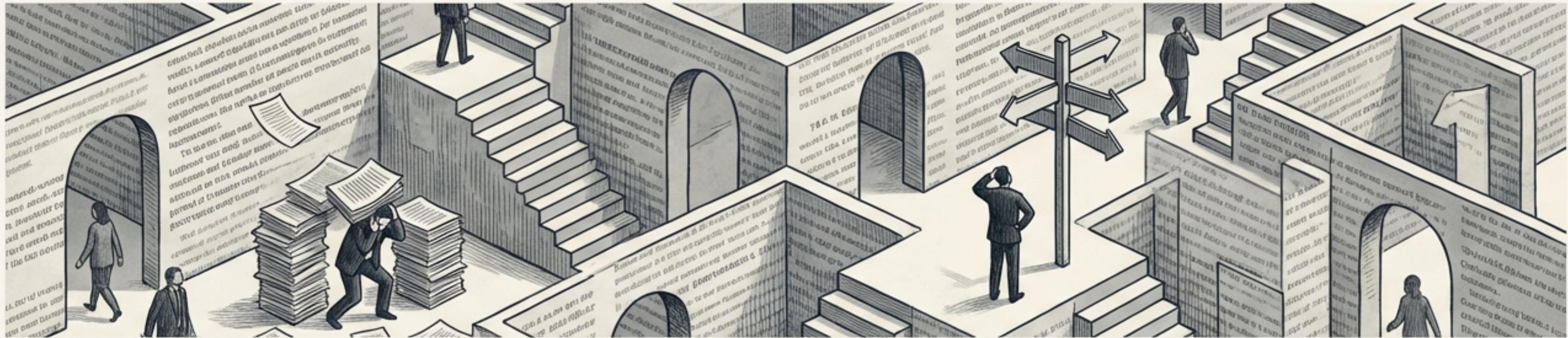
WHEREAS the ~~comptroller~~ ~~and~~ ~~the~~ ~~commissioner~~ ~~of~~ ~~revenue~~ ~~for~~ ~~the~~ ~~state~~ ~~of~~ ~~Illinois~~ ~~do~~ ~~order~~
the ~~comptroller~~ ~~and~~ ~~the~~ ~~commissioner~~ ~~of~~ ~~revenue~~ ~~for~~ ~~the~~ ~~state~~ ~~of~~ ~~Illinois~~ ~~do~~ ~~order~~
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From Complexity to Clarity

An AI-Powered Regulatory Intelligence Assistant

The Labyrinth of Regulation is a Critical Government Bottleneck



The challenge is to “Navigate complex regulations efficiently and accurately.”

For Public Servants

- Wasted hours searching for rules
- Risk of inconsistent application
- Slow processing times for applications
- Difficulty training new staff

For Citizens & Businesses

- Confusion over eligibility and requirements
- High rates of application errors
- Lack of access to clear, understandable information

For Government

- Inefficient operations
- Reduced public trust
- Delayed delivery of critical services and benefits

Our Goal: Transformative Gains in Efficiency and Clarity



60-80%

reduction in time to find relevant regulations.



50-70%

reduction in compliance errors.



40-60%

faster application processing.



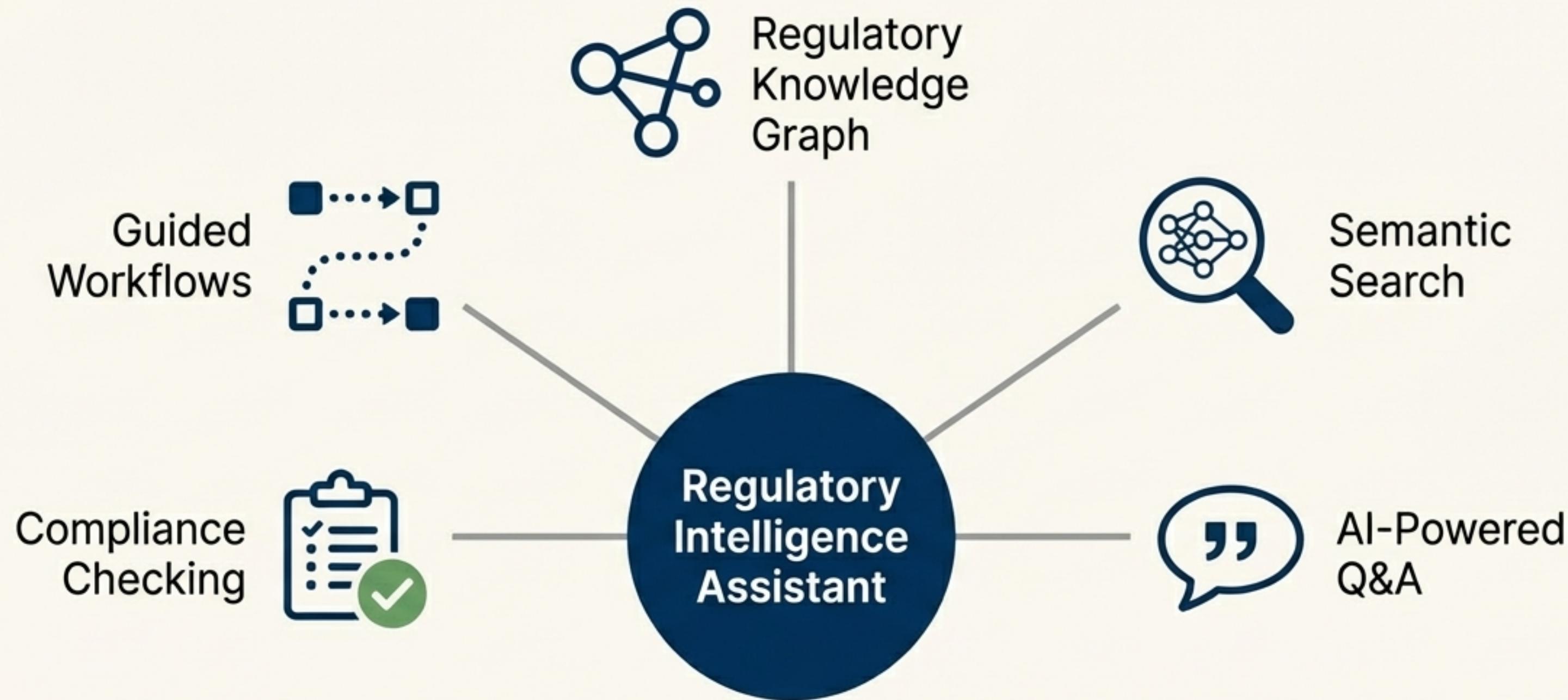
90%

user satisfaction with search results.

These metrics guide every aspect of our system's design and engineering.

Introducing the Regulatory Intelligence Assistant

An AI-powered system that helps public servants and citizens navigate complex regulatory landscapes through semantic search, natural language Q&A, compliance checking, and guided workflows.



Five Integrated Features Delivering End-to-End Clarity



Regulatory Knowledge Graph

- Interconnects regulations, policies, and precedents.
- Tracks amendments and visualizes relationships.



Semantic Search

- Understands natural language queries.
- Combines keyword and vector search for superior relevance.



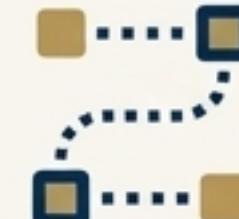
AI-Powered Q&A

- Uses a RAG system with Gemini to provide clear answers.
- Provides direct citations and confidence scores.



Compliance Checking

- Automatically extracts requirements from text.
- Provides real-time validation on forms to prevent errors.

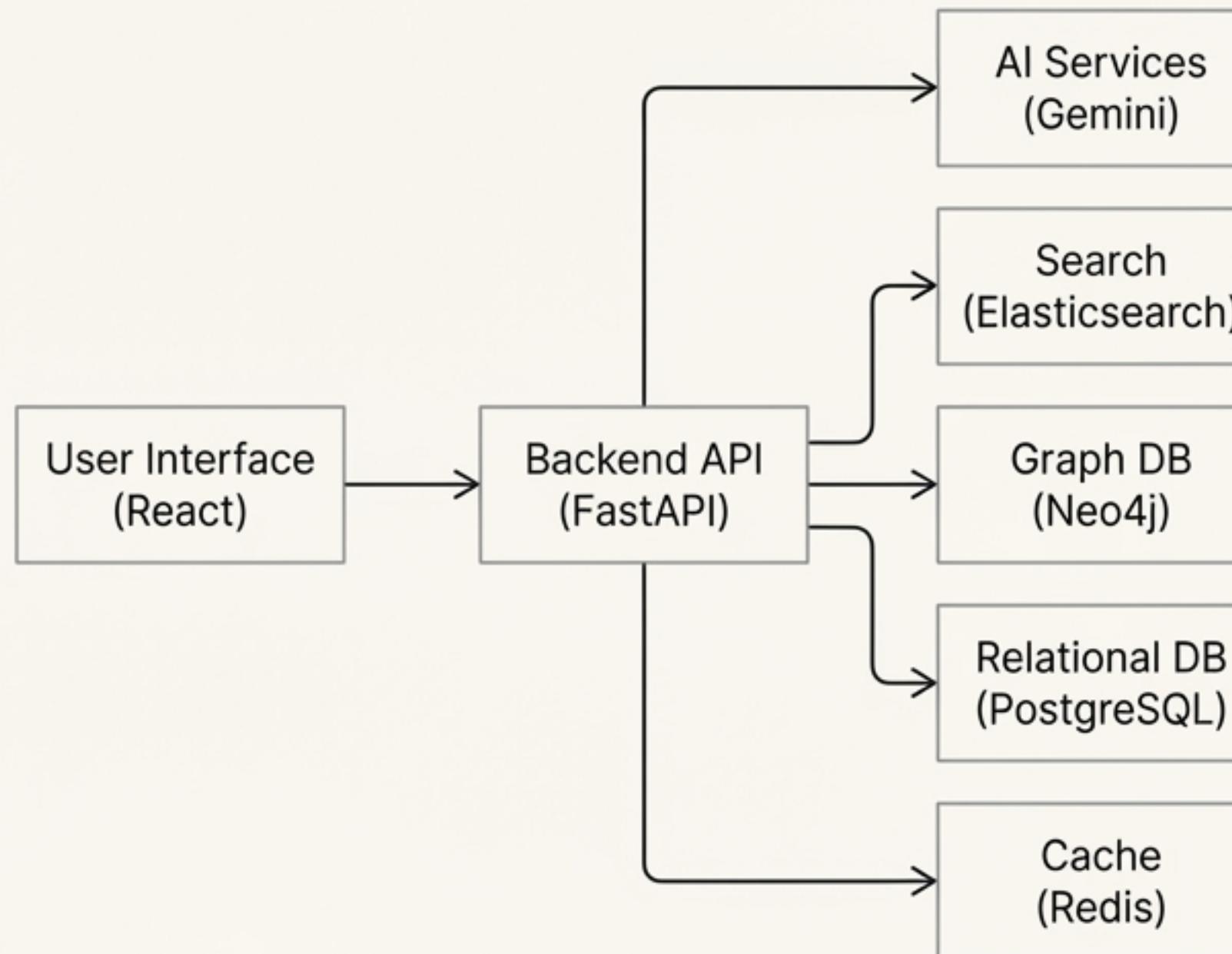


Guided Workflows

- Provides step-by-step assistance through complex processes.
- Features contextual help and smart forms.

A Modern, Scalable, and Production-Ready Architecture

System Components



Technology Stack

Frontend

React 19, TypeScript 5.9, Vite 7, Tailwind CSS v4

Backend

FastAPI (Python 3.11+)

Databases

Neo4j, Elasticsearch, PostgreSQL, Redis

AI Services

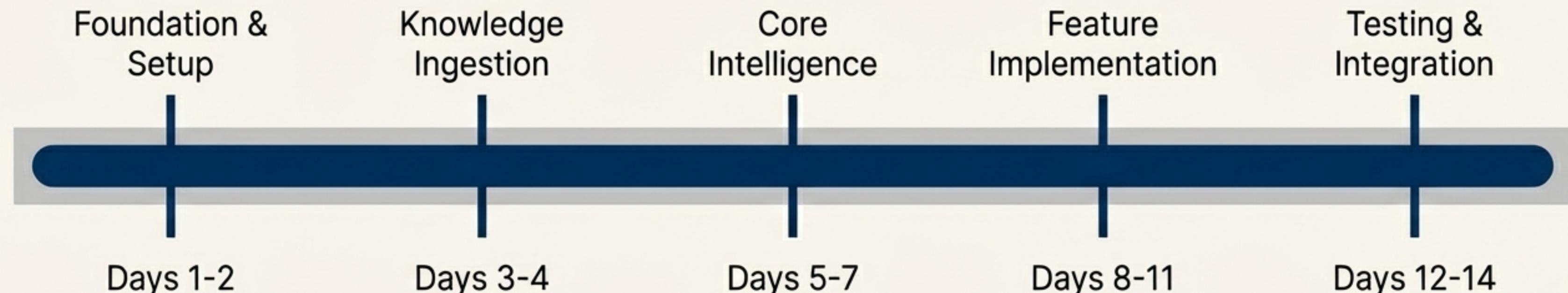
Gemini API (for RAG and embeddings)

Testing

Playwright, pytest

Vision to Validation: A Complete MVP in a 14-Day Sprint

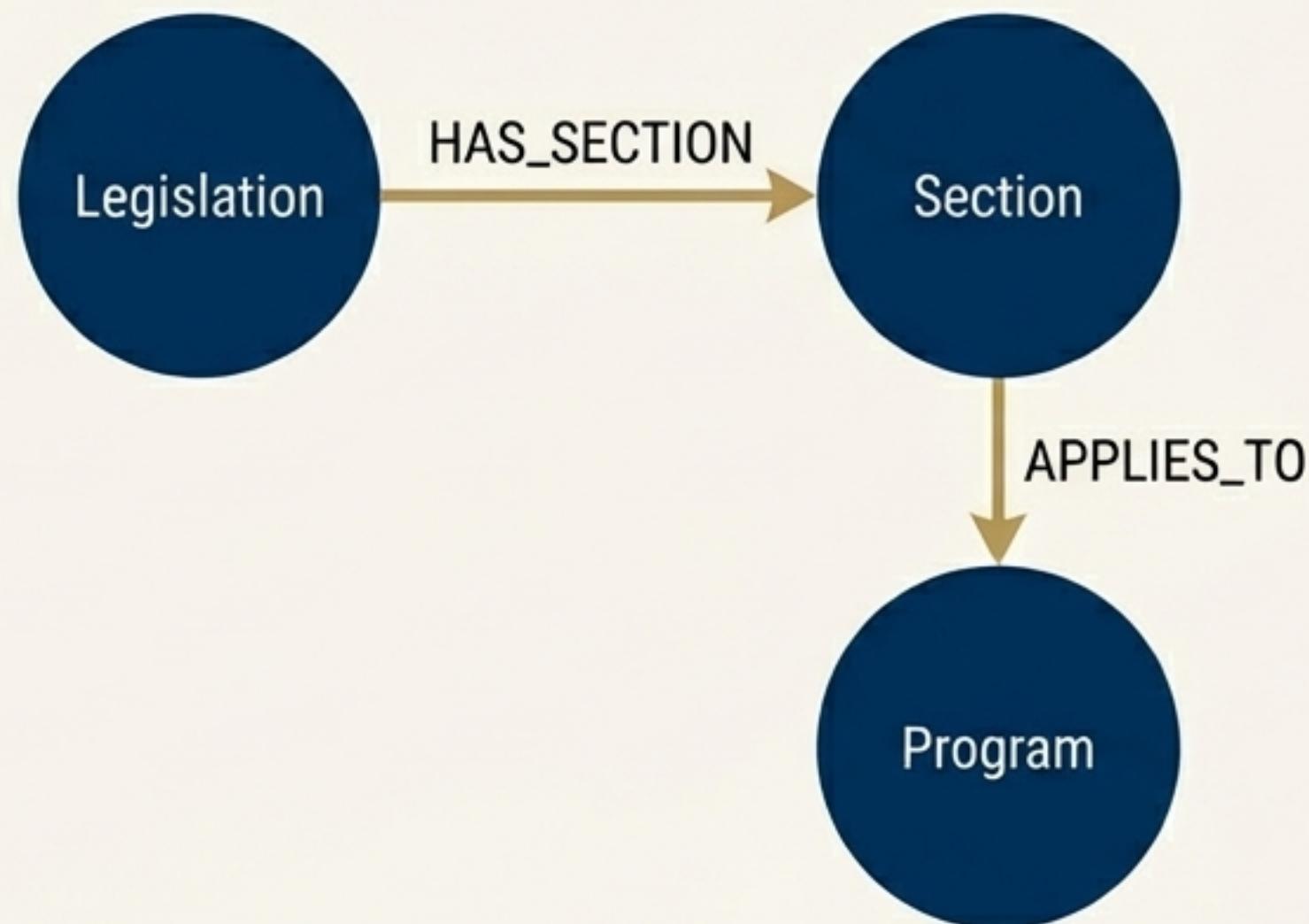
From November 17 to December 1, our 4-person team executed a parallel development plan to build a fully functional application.



Status: 🎉 **MVP Development Complete - Ready for Testing!**

The Foundation: An Interconnected Graph of Regulatory Knowledge

We model the complex web of regulations not as static documents, but as a dynamic, queryable network of interconnected entities. Built on Neo4j, our graph schema defines the core components of the regulatory landscape.



**Node Types
(The Entities)**

Legislation
Section
Regulation
Policy
Program
Situation

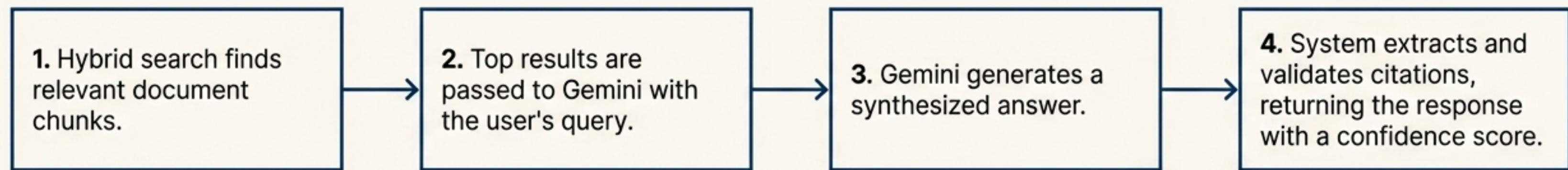
**Relationship Types
(The Connections)**

HAS_SECTION
REFERENCES
AMENDED_BY
APPLIES_TO
RELEVANT_FOR
IMPLEMENTS

Answering Complex Questions with Sourced Confidence

What: Users receive plain-language answers to natural language questions, supported by direct citations from source regulations for full transparency and trust.

How: A Retrieval-Augmented Generation (RAG) system powered by the Gemini API.



Example

Question

"Can a temporary resident apply for employment insurance?"

Answer

"Yes, temporary residents can apply... if they have a valid work permit. According to Section 7(1) of the Employment Insurance Act..."

Citations

Employment Insurance Act, S.C. 1996, c. 23, s. 7(1)

Confidence High

Automating Compliance with a Real-Time Engine

What: Proactively prevent compliance errors before they happen with instant, field-level validation and comprehensive pre-submission checks.

How: A three-tier architecture (Extractor -> Engine -> Checker) provides robust and fast validation.

Name
John Doe

Date of Birth
01/01/1980

Age of Applicant
70

Value must be between 18 and 65.

<50ms for field-level validation

Key Capabilities

- Requirement Extraction:** 4 pattern types (mandatory, prohibited, etc.) automatically identified from regulatory text.
- Real-time Validation:** 8 validation types (range, pattern, etc.) check user input as they type.
- Performance:** <50ms for field-level validation; <200ms for full compliance checks.
- API-Driven:** 6 dedicated RESTful API endpoints for maximum flexibility.

More Than a Demo: A Production-Ready Foundation



Organized Codebase

- Clear separation of concerns (backend/, frontend/)
- Service-oriented architecture (backend/services/)
- Comprehensive test suite (backend/tests/)



Comprehensive Documentation

- Planning:** Idea Document, PRD, Implementation Plan
- Architecture:** Design Document, Neo4j Schema Guide
- Development:** API Reference, Compliance Engine Guide



Extensive API Coverage

- 50+** REST API Endpoints
- Interactive Swagger Documentation (/docs)
- Comprehensive health checks for all services

Rigorously Tested, Quantifiably Better

Our system was validated through a comprehensive suite of 285+ unit, integration, and E2E tests.

>95%

Citation Accuracy

(Verified by legal expert evaluation)

100% Pass Rate

Compliance Logic

(24 unit tests for the compliance engine)

>80%

Search Precision@10

(Measured against expert-curated results)

>4/5 Rating

RAG Answer Quality

(Rated by legal experts for clarity and correctness)

Full test reports available in project documentation, covering Playwright E2E, pytest backend tests, and specialized quality evaluations.

Transforming Work for Caseworkers, Analysts, and Citizens



Caseworkers

- Quickly find applicable regulations for a specific case.
- Check application compliance in seconds, not hours.
- Use guided workflows for complex or infrequent processes.



Policy Analysts

- Instantly research the entire regulatory landscape.
- Discover hidden connections and precedents using the knowledge graph.
- Track amendments and analyze the impact of changes.



Citizens & Businesses

- Self-assess eligibility for programs and benefits.
- Get plain-language explanations of complex legal requirements.
- Receive step-by-step guidance to complete applications correctly the first time.

The MVP is Complete. The Platform is Ready to Scale.

Our architecture was designed from day one to support future growth and integration.

Now: Complete MVP

Completed:

- Regulatory Knowledge Graph
- Semantic Search & RAG Q&A
- Real-time Compliance Checking



Next Steps: Future Enhancements

- **Change Monitoring & Alerting:** Proactively notify users of regulatory updates.

Features:

- **Multi-Jurisdiction Support:** Expand the knowledge base to new regions.
- **Advanced Workflow Engine:** Support more complex, multi-stage processes.
- **Third-Party Integrations:** Provide a public API for case management systems.

From Complexity to Clarity: Meeting the G7 GovAI Challenge

-80%
Time

Challenge:
"Navigate complex regulations efficiently and accurately."

-70%
Errors

Our Answer:

- ✓ We built a **complete system**, not just a concept.
- ✓ It is **validated** by over 285 tests with quantifiable metrics.
- ✓ It delivers **transformative impact** for public servants and citizens.